

**C. If the Settlement Is Denied, Grant of KFLY's Upgrade  
Application Would Better Serve The Public Interest**

With the allotment of Channel \*268C3 at The Dalles no longer in consideration, the Commission (if it continues to refuse approval of the MBI/American Radio settlement) is faced with a conflict between the KFLY upgrade and the KBBT-FM upgrade. Data already before the Commission demonstrates the KFLY upgrade would better serve the public interest. By upgrading KBBT-FM to Class C1 status, the station would serve an additional area of 7,908 square kilometers with a population of 221,322 persons. But KFLY operating as a Class C station would serve an additional area of 9,490 square kilometers and an additional population of 325,969 persons -- 104,647 more persons than KBBT-FM.<sup>15</sup> The fact that KFLY's upgrade would provide service to a substantially larger area and substantially larger number of persons should be dispositive. Yet, even if it were not, other factors favor the KFLY proposal. KFLY is only one of two commercial FM stations licensed to Corvallis, which has a population of 46,244. Indeed, there are only two FM commercial allotments in Benton County, in which Corvallis is situated. Conversely, KBBT-FM is situated in the Portland, Oregon metropolitan market -- the nation's 24<sup>th</sup> largest radio market. Duncan's Radio Market Guide (1998 Ed.). Indeed, according to an engineering statement filed in this proceeding, the additional area that would be served as the result of KBBT-FM's upgrade is within the primary service contour of 44 other stations. Comments of Hurricane Broadcasting, Engineering Statement, Table A (filed March 28, 1996).

---

<sup>15</sup> Exhibit 1 of Consolidated Joint Counterproposal Reply Comments, filed July 3, 1996 by Common Ground Broadcasting, Inc. and Combined Communications, Inc.

MBI has shown that Channel \*268C3 at The Dalles should not be considered in this proceeding. However, if that allotment were considered, MBI's proposal for KFLY still should prevail. Significantly, The Dalles, with a population of 11,060 persons (approximately one fourth that of Corvallis), already receives local service from three FM stations and AM stations. The combined population that would receive new service from the KBBT-FM upgrade and the new allotment on Channel \*268C3 at The Dalles would still be more than 45,000 persons smaller than the population gaining new service from KFLY's proposed Class C facilities. The R&O based its preference for The Dalles/KBBT-FM combination on the grounds that The Dalles proposal would provide that community with its first noncommercial educational service. The R&O, however, does not cite any case in which a first noncommercial educational service to a well served community was found to be a prevailing factor over other "public interest considerations," such as new service to a substantially larger population.

In Revision of FM Assignment Policies and Procedures, 90 FCC 2d 88, 92 n. 8 (1982), the Commission enumerates some of the factors that may be taken into consideration under the "other public interest matters" criterion: "the number of aural services received in the proposed service area, the number of local services, the need for or lack of public radio service and other matters such as the relative size of the proposed communities and their growth rate." These "other factors" are not ranked in order of importance. Thus, the establishment of a noncommercial educational service is not *ipso facto*, more important than providing new service to a larger number of persons. In this case, the fact a substantially greater population that would receive new service from KFLY's Class

C upgrade is more significant than the addition of a sixth local service, albeit the first noncommercial educational service, to a community one-fourth the size of Corvallis.

#### **IV. SUMMARY**

On reconsideration, the Commission's staff is urged to approve the settlement agreement proffered in good faith by MBI and American Radio. In doing so, the conflicts between those parties will be at an end and expanded service can quickly be provided by both American Radio's KBBT-FM and MBI's KFLY. If the Commission declines to approve the settlement, it must choose between the KFLY upgrade and the conflicting proposals before it. As an initial matter, the proposed allotment of Channel \*268C3 to The Dalles does not come into play. Any one of the five reasons outlined above should not be made and should not be considered herein. Faced with the comparison between the KFLY upgrade and the KBBT upgrade, the KFLY upgrade must be preferred.

**WHEREFORE**, in light of all circumstances present, Madgekal Broadcasting, Inc. herein respectfully requests that the Commission reconsider the Report and Order in the above-captioned proceeding and grant the relief requested herein.<sup>16</sup>

**MADGEKAL BROADCASTING, INC.**

By 

Matthew H. McCormick

Its Counsel

Reddy, Begley & McCormick  
2175 K Street, N.W., Suite 350  
Washington, D.C. 20037  
(202) 659-5700

May 19, 1998

---

<sup>16</sup> MBI notes that on May 15, 1998, it tendered a one-step upgrade application for KFLY specifying Class C1 facilities at the same site identified in BPH-960206IF. In an accompanying transmittal letter, MBI stated that the modification application was being submitted as an interim measure because final resolution of this proceeding may take a substantial amount of time. MBI requested, to the extent necessary, waiver of Section 73.3517 and Section 73.3518 of the Rules.

**EXHIBIT A**

**McCLANATHAN REPORT**  
**FOR MADGEKAL BROADCASTING, INC.**  
**CONCERNING AVAILABILITY OF NCE AND COMMERCIAL**  
**FM CHANNELS TO SERVE THE DALLES, OREGON**

# **MCCLANATHAN AND ASSOCIATES, INC.**

PROFESSIONAL ELECTRICAL ENGINEERS  
P.O. BOX 939 - PORTLAND, OREGON 97207-0939  
TEL: (503) 246-8080 FAX: (503) 246-6304

## **ENGINEERING REPORT**

for

**MADGEKAL BROADCASTING, INC.**

concerning

### **AVAILABILITY OF NCE AND COMMERCIAL FM CHANNELS TO SERVE THE DALLES, OREGON**

#### **INTRODUCTION**

McClanathan and Associates, Inc., Professional Electrical Engineers, has been retained by Madgekal Broadcasting, Inc. to determine if there is a NCE reserved FM channel available to serve The Dalles, Oregon and to comment on the allocation of FM channel \*268C3 to The Dalles in lieu of channel \*256C3.

#### **THE DALLES TOPOGRAPHY**

FM radio service to The Dalles, Oregon has particular problems due to the geographic topographic features of the area. Exhibit 1 is a portion of The Dalles South 7.5 minute USGS topographic quadrangle map showing the incorporated city of The Dalles along the South shore of the Columbia River which separates the States of Oregon and Washington. The Columbia River flows to the West through a deep gorge carved out during the last glacial period.

The city of The Dalles is surrounded by hills on the Southeast, South and Southwest. The greatest portion of The Dalles, including all of the business and industrial areas, are located in low elevations near the river in an area shaped somewhat like the bottom of a bowl. The elevation of the Columbia River is typically 72 feet AMSL and the center of The Dalles is 240 feet AMSL. The hills on the North shore, across the river from The Dalles, have elevations typically between 1200 and 3100 feet AMSL. For convenience, elevations and distances will be stated in British measurement units of feet and miles since the attached map exhibits show elevations only in feet.

#### **EXISTING ANTENNA SITES**

Nearly all VHF and UHF communications, FM radio and TV broadcasting antenna sites are located on the ridge of hills across the river and approximately 14 km (8.7 miles) to the North of The Dalles. A typical established antenna site is

Stacker Butte with an elevation of 3220 feet AMSL. The Stacker Butte location provides the optimum and complete line-of-sight radio propagation to 100 percent of all areas of The Dalles.

Another existing radio communications site on Haystack Butte is also located North of the Columbia River and East of The Dalles and Stacker Butte. Although this site is further to the East it does provide line-of-sight propagation to nearly all of The Dalles.

#### **NCE FM CHANNEL STUDY**

A FM channel interference study was done to determine if there are any reserved NCE FM channels available to serve The Dalles. For this study an existing communications site near Stacker Butte was used. This site is the location of FM translator station K256AC and numerous TV translator services. K256AC operates with 0.01 kW ERP and provides excellent coverage into all of The Dalles from this site.

The results of this study is attached as Exhibit 2 which demonstrates that NCE channels 201, 211, 213 and 215 have possibility for use at this site. An antenna power of 0.20 kW ERP was used which is a class C3 station at the Stacker Butte antenna HAAT of 561 meters.

The nearest channel 6 TV station is KOIN TV in Portland, Oregon which is an affected station. A study was done for channel 215C3 using the Dataworld, Inc. computer services to determine the total population within the calculated KOIN TV predicted interference area. Exhibit 3 shows, for channel 215 operating as a class C3 station from Stacker Butte, the total interference area to KOIN TV is 70.6 square kilometers and the population within this interference area is 497 persons. Since this is less than 3000 persons it is possible to use NCE channel 215 to serve The Dalles with a class C3 NCE station.

#### **ALLOCATION OF CHANNEL \*268C3 TO THE DALLES**

On November 20, 1995 LifeTalk Broadcasting Association (Lifetalk), erroneously stating that no NCE FM channel was available to serve The Dalles, petitioned the FCC to allocate FM channel 256C3 to The Dalles and reserve it for NCE applicants. On February 13, 1996 the FCC released a Notice of Proposed Rule Making, MM Docket No. 96-12, RM-8741, (PRM) proposing to allocate FM channel \*268C3 to The Dalles. The FCC stated, in footnote 1. of this PRM, that "The staff engineering analysis of Channel 256C3 shows that the closest unobstructed transmitter site is 22.8 kilometers from The Dalles, which results in only half the community being covered with a 70 dBu city-grade signal." The FCC proposed instead to allocate channel \*268C3 to The Dalles but with a site restriction of 8.8 km to the Southwest to avoid short-spacing to Station KPLZ, channel 268C in Seattle, Washington.

Notwithstanding the engineering analysis performed by the FCC staff, a brief examination of the area surrounding The Dalles conclusively demonstrates that channel 268C3 can not provide adequate line-of-sight coverage to the community of The Dalles from any possible antenna location in compliance with 47 C.F.R. Section 73.315(b). Additionally, the channel 256C3 originally requested by Lifetalk, can indeed provide line-of-sight and 70 dBu coverage to The Dalles.

The problem for channel 268C3 is that any antenna site must be located to the South of The Dalles to avoid short-spacing to Station KPLZ, channel 268C in Seattle, Washington as described in the FCC PRM. Since the community of The Dalles is surrounded by high ridges of the Columbia River Gorge to the East, South and West any possible antenna site will suffer terrain obstructions into The Dalles city area. This terrain obstruction is so severe that even a very tall antenna support structure will not overcome the topographic shielding.

Four, 7.5 minute USGS topographic maps are attached for convenience in reviewing the terrain obstructions. Exhibit 5 is a copy of the Wishram quadrangle. Marked on Exhibit 5 is a location on Haystack Butte with an elevation of 2846 feet AMSL at geographic coordinates 45-41-01N and 120-57-17W.

A channel 256C3 FM channel spacing study was obtained for this location on Haystack Butte and is attached as Exhibit 4. This study demonstrates this channel may be allocated to The Dalles in compliance with 47 C.F.R. Section 73.207(b)(1). A class C3 station from this Haystack Butte location will provide all of The Dalles with 70 dBu signal coverage as shown on the contour map, Exhibit 11. Attached to Exhibit 11 is a tabulation of the terrain and coverage data for this transmitter location.

Exhibit 6 is a copy of the Emerson quadrangle. Marked on Exhibit 6 is the location of the "global coordinates" suggested as a transmitter location for channel 268C3. This site, on the ridge above and West of the Deschutes River, has an elevation of 1245 feet AMSL at geographic coordinates 45-34-00N and 120-55-00W.

Exhibit 7 is a copy of the Petersburg quadrangle and marked on this map is the location at "Japanese Hollow" with an elevation of 918 feet AMSL at geographic coordinates 45-31-28N and 121-07-22W. These are the FCC site coordinates specified by the FCC in footnote 3. of the February 13, 1996, MM Docket No. 96-12, RM-8741 PRM, as necessary to provide the required 237 km spacing to co-channel Station 268C KPLZ in Seattle.

Exhibit 1A is a copy of The Dalles South quadrangle map which shows elevations above MSL of the hills surrounding The Dalles to the South.



## TERRAIN SHIELDING

A study was completed to demonstrate the effect of terrain shielding to the city of The Dalles from the three FM antenna sites. These locations are the "global coordinates" and "FCC coordinates" sites specified for channel \*268C3 and "Haystack Butte" suggested for the channel 256C3 antenna site.

Radial profile graphs were prepared from the three sites to show the elevation topography of the intervening land between the antenna site and the city of The Dalles. The official May 1998 corporate city limit boundary for The Dalles was obtained from the city planning office.<sup>1</sup> This city boundary is shown in Exhibit 1.

The elevations obtained for the radial profile graphs were obtained from NGDC 3 second Digital Elevation Models and, when compared to the elevations on the 7.5 minute topographic maps Exhibits 5-8, compare quite closely with sufficient accuracy.

Six equally spaced radial profile graphs were drawn from the "global coordinates" site over the city of The Dalles as shown in Exhibit 8. The Dalles corporate boundaries are marked on each profile graph. A line-of-sight line is drawn on each graph from a proposed transmitting antenna center of radiation located at an elevation of 213 meters (700 feet) AGL, 593 (1945 feet) MSL.

It is obvious from the profile graphs that nearly all of The Dalles is severely shadowed from the antenna site by terrain obstructions. Only the small most Northwest area of The Dalles will receive line-of-sight coverage as shown on the N284E degree radial, page 5 of Exhibit 8. Moreover, it is easily demonstrated by simple geometry using a straight edge that, even if the transmitting antenna height were increased to 474 meters (1555 feet) AGL or 2800 feet MSL, less than one-half of The Dalles would receive line-of-sight signal propagation.

A similar radial profile study was conducted for the "FCC coordinates" location near Japanese Hollow as shown in Exhibit 9. A 700 foot high tower was used to draw the line-of-sight propagation from the antenna to the terrain obstruction. Eight profile graphs were prepared with equal spacing to cover the city of The Dalles. The radial profile graphs demonstrate that this "FCC coordinates" site can not provide line-of-sight signal propagation to The Dalles because of significant terrain obstructions. It is most unlikely that any applicant for such an allocation would be able to construct a 700 foot high antenna supporting structure.

<sup>1</sup> Community Development Department, City of The Dalles,  
313 Court Street, The Dalles, OR 97058, Tel: 541-296-5481.

The third antenna site studied is the "Haystack Butte" site that is suitable for use with channel 256C3. Exhibit 10 consists of 10 profile graphs prepared with equal spacing to cover the city of The Dalles. An antenna height of only 25.6 meters (84 feet) AGL was used to prepare the line-of-sight propagation to obstructions and the city of The Dalles.

The profile graphs demonstrate that the "Haystack Butte" site does provide line-of-sight signal propagation to most of the city of The Dalles with a few local hills causing minor shielding within the city. A modest transmitting antenna height increase would eliminate nearly all of these minor shadow areas.

### CONCLUSIONS

The optimum FM channel for serving The Dalles with non-commercial educational programming is NCE channel 215. The preferred transmitter and antenna site is Stacker Butte directly across the Columbia River from The Dalles. This site provides line-of-sight signal propagation to 100 percent of the city of The Dalles with a very low transmitting antenna height AGL. A class A or minimum power class C3 facility may be located at Stacker Butte and not cause prohibited interference to the channel 6 TV station KOIN in Portland.

The FCC allocation of channel 268C3 to The Dalles is unsuitable because of the required site restriction to the South of The Dalles to provide the 237 km minimum distance separation requirement to Station KPLZ, channel 268C in Seattle, Washington. Because of severe terrain obstructions there is no possible antenna allocation location for channel 268C3, even with an absurdly high tower, that will provide line-of-sight signal propagation into The Dalles.

Allocation of channel 256C3 to The Dalles will enable the cities of The Dalles, Oregon and Goldendale, Washington to be totally covered with a 70 dBu city-grade signal. A site restriction of 20 km (12.4 miles) to the East, using the "Haystack Butte" geographic coordinates of 45-41-01N, 120-57-17W, is required to avoid a short-spacing to Station KODZ, channel 256C, Eugene, Oregon. The "Haystack Butte" site is served with electrical power and line-of-sight signal propagation to nearly all of the city of The Dalles is possible with a very short antenna supporting structure. The high antenna HAAT at this site limits the maximum class C3 antenna power at this site to approximately 0.80 kW ERP.

It is suspected the FCC staff engineering analysis as reported in the PRM, which favored channel 268C3 in lieu of channel 256C3 at The Dalles, was faulted because of a lack of staff access to either the 7.5 minute USGS topographic quadrangle maps or 30 meter USGS computer topographic data for the area.

Engineering report prepared by:



Robert A. McClanathan, P.E.  
McClanathan and Associates, Inc.  
P.O. Box 939  
Portland, Oregon 97207

May 11, 1998

STATE OF OREGON       )  
                              ) SS:  
County of Multnomah)

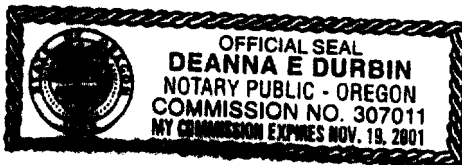
ROBERT A. McCLANATHAN, being duly sworn upon oath, deposes and says:

1. That he is President of McClanathan and Associates, Inc., Professional Electrical Engineers.
2. That he is a licensed Professional Electrical Engineer in the States of California, Oregon, Washington and the District of Columbia, that he is a member of the Association of Federal Communications Consulting Engineers and that he is a licensed radio operator holding FCC License Number PG-13-13526.
3. That he has been engaged in governmental, educational, commercial radio and television broadcast engineering and developments since 1955.
4. That he has been retained by Madgekal Broadcasting, Inc. to prepare the engineering exhibits to demonstrate the availability of certain FM broadcast channels to serve The Dalles, Oregon.

Affiant finally states that the material and exhibits contained in this report were prepared by him or under his direct supervision and that he has checked all results and believes them to be true.

*R. A. McClanathan*  
Robert A. McClanathan, P.E.

Subscribed and sworn to before me this 11th day of May, 1998.

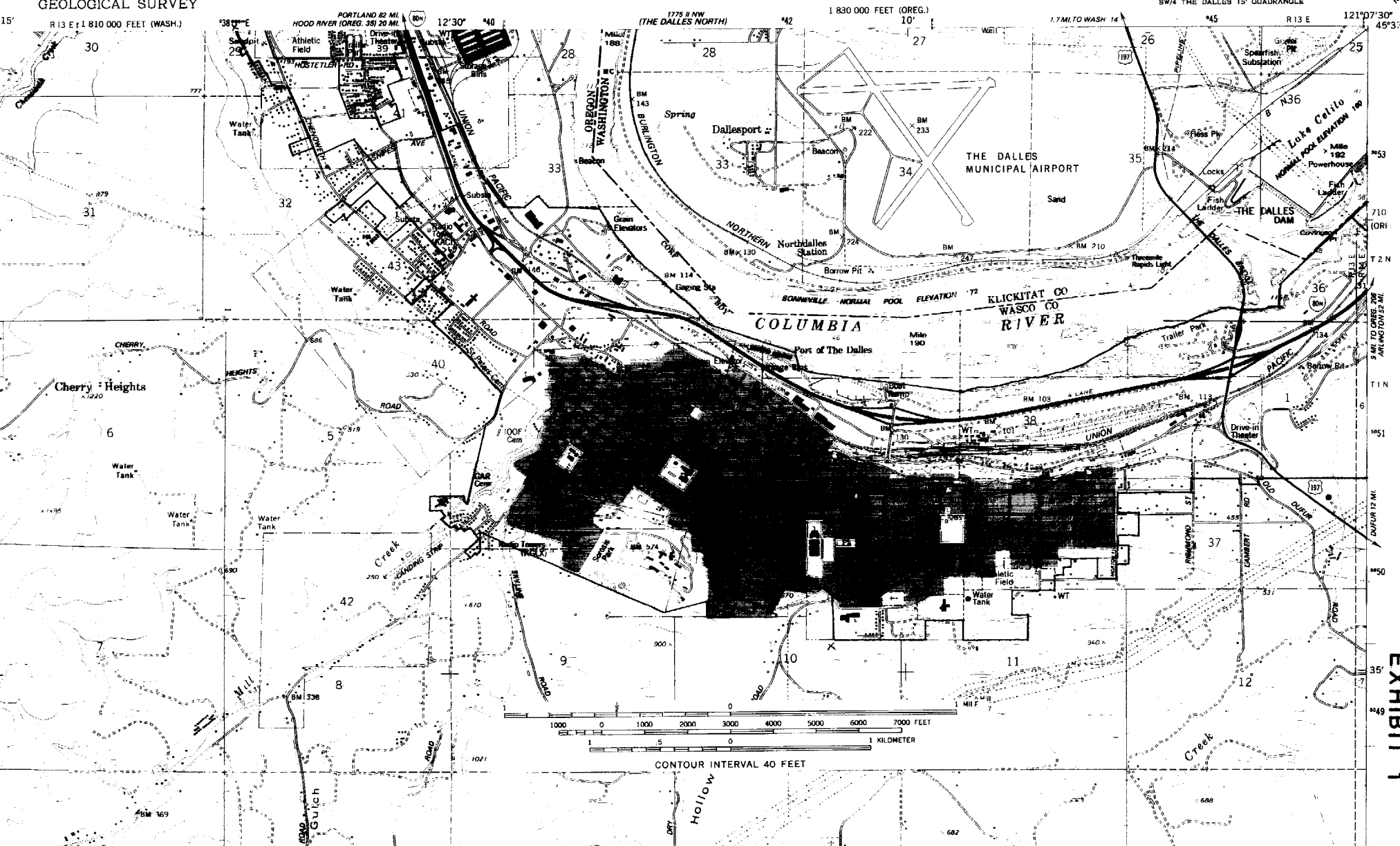


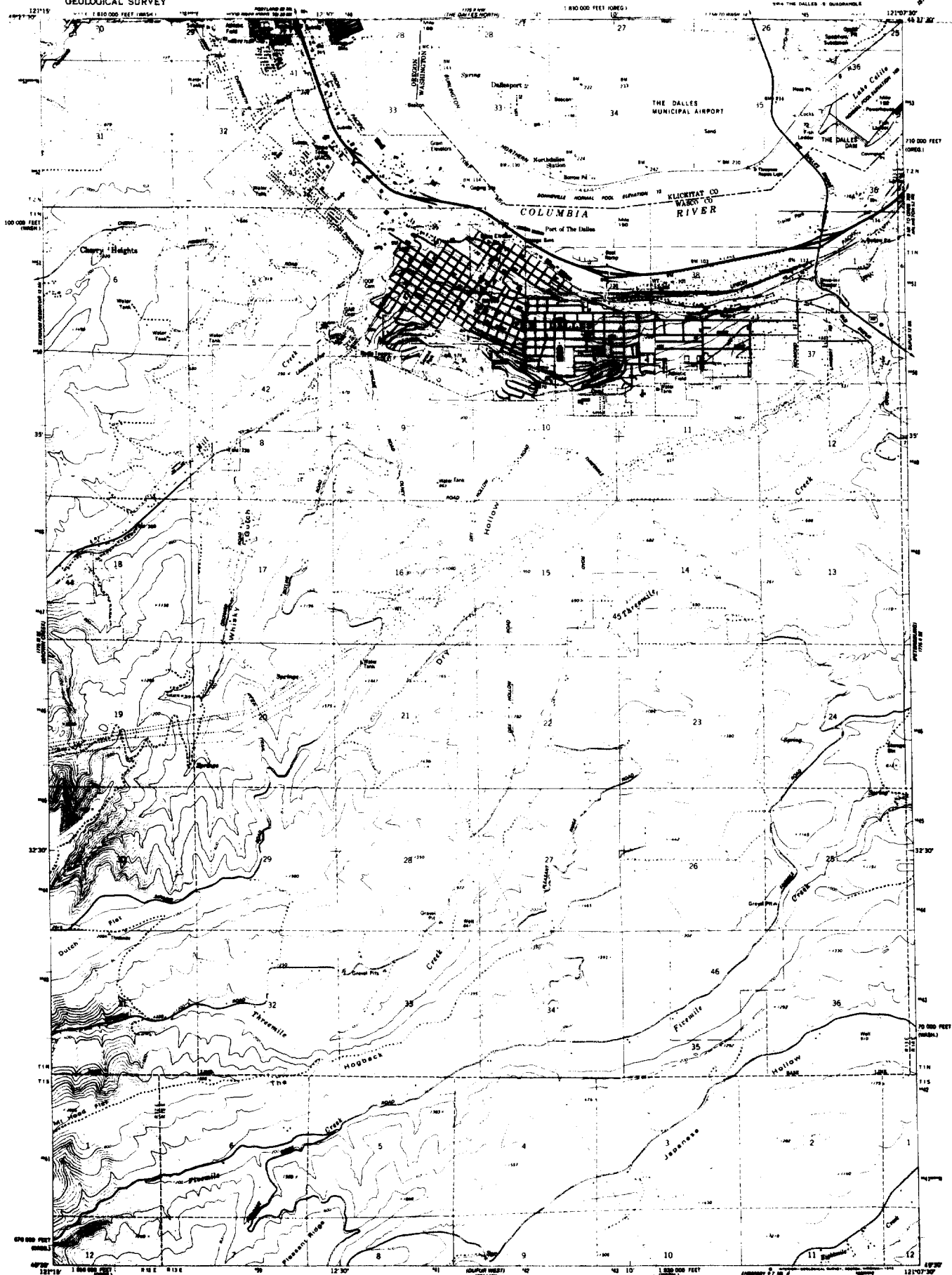
*Deanna E. Durbin*  
Notary Public, Oregon

In and for the County of Multnomah, State of Oregon.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

THE DALLES SOUTH QUADRANGLE  
OREGON—WASHINGTON  
7.5 MINUTE SERIES (TOPOGRAPHIC)  
SW/4 THE DALLES 15' QUADRANGLE





Map made, edited, and published by the Geological Survey

Control by U.S. GEOLOGICAL SURVEY and State of Oregon

Topography by photogrammetric methods from aerial photographs taken 1972. Field checked 1974

Relief topographic data compiled from NAD 83/84 charts 6137 and 6138 (1972)

This information is not intended for navigational purposes

Projection: Oregon coordinate system, north zone (Lambert conformal conic)

500-foot grid lines based on Oregon coordinate system, north zone and Washington coordinate system, north zone

500-foot contour interval, 100-foot grid lines, 100-foot contour interval

Red and black lines indicate selected features and black lines show generally shown on aerial photographs. This information is not intended for navigational purposes



SCALE 1:24,000

CONTOUR INTERVAL 40 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1989

VERTICAL CURVES AND SLOPES IN FEET

DATUM BELOW THE DALLES DAM IS NORMAL POOL ELEVATION 72 FEET

DATUM ABOVE THE DALLES DAM IS NORMAL POOL ELEVATION 180 FEET

THIS MAP COMPLETES WITH NATIONAL MAP ACCURACY STANDARDS

FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092

A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION	
Primary highway	Light-duty road, hard or
hard surface	improved surface
Secondary highway	Unimproved road
hard surface	
Interstate Route	U.S. Route
	State Route

THE DALLES SOUTH, OREG.-WASH.

WITH THE DALLES 15 QUADRANGLE

1977

AND 1778 8 00-50000 7000

# EXHIBIT 2

McCLANATHAN & ASSOCIATES  
PORTLAND, OREGON

Page 41  
May 5, 1998

## FM Interference study

Title: THE DALLES, OR  
Channel 201C2 ( 88.1 MHz) ERP: .20 kW; EAH: 561 m  
Database: FCC 04/09/98

Latitude: 45-42-43  
Longitude: 121-07-00  
Safety zone: 80 km

Call	Auth	Licensee name	Chan	ERP-kW	Latitude	Br-to	Dist.	Req.
City of License	St	FCC File no.	Freq	EAH-m	Longitude	-from	(km)	(km)
KOIN	LIC	KOIN-TV, INC.	6	100	45-30-58	260.8	127.9	186.3
PORTLAND	OR		85.0	533	122-43-59	79.6	-58.4	SHORT
Proposed F(50,10) 48 dBu = 63.13 km; KOIN F(50,50) 47 dBu = 123.2 km								
KSFH	APC	St Francis High Sch. of	*200D	.010	37-22-08	185.3	930.1	49.07
Mountain View	CA		87.9	-74	122-05-02	4.6	881.0	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KSFH F(50,50) 60 dBu = 3.179 km								
Proposed F(50,50) 60 dBu = 29.40 km; KSFH F(50,50) 54 dBu = 4.529 km								
KAYB	CP	American Family Associat	*201A	.25	46-19-53	50.6	109.7	94.08
Sunnyside	WA		88.1	-57	120-00-51	231.4	15.60	CLOSE
Proposed F(50,10) 40 dBu = 86.89 km; KAYB F(50,50) 60 dBu = 7.191 km								
Proposed F(50,50) 60 dBu = 29.40 km; KAYB F(50,10) 40 dBu = 23.93 km								
KLRO	CP	LifeTalk Broadcasting As	*201A	.20	46-48-36	7.6	123.2	93.67
Nile	WA		88.1	-33	120-54-10	187.7	29.49	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; KLRO F(50,50) 60 dBu = 6.781 km								
Proposed F(50,50) 60 dBu = 29.40 km; KLRO F(50,10) 40 dBu = 22.58 km								
NEW	CP	Trustees of Central Wash	*201A	.50	47-00-21	17.6	151.1	95.47
Ellensburg	WA		88.1	-58	120-30-55	198.0	55.62	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; NEW F(50,50) 60 dBu = 8.578 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,10) 40 dBu = 28.75 km								
KTCV	LIC	Kennewick School Distric	*201A	.32	46-13-05	68.5	158.5	94.53
Kennewick	WA		88.1	-27	119-12-17	249.8	63.99	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; KTCV F(50,50) 60 dBu = 7.645 km								
Proposed F(50,50) 60 dBu = 29.40 km; KTCV F(50,10) 40 dBu = 25.51 km								
NEW	APC	Lane Community College	*201A	.45	44-04-40	185.4	182.4	106.2
Bend	OR		88.1	160	121-19-49	5.2	76.21	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; NEW F(50,50) 60 dBu = 19.29 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,10) 40 dBu = 59.96 km								
NEW	APC	CSN International	*201A	2.15	44-04-40	185.4	182.4	115.0
Bend	OR		88.1	166	121-19-49	5.2	67.41	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; NEW F(50,50) 60 dBu = 28.09 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,10) 40 dBu = 81.49 km								
KBVM	LIC	Metro Catholic Broadcast	*202C2	1.90	45-30-58	260.8	127.9	93.83
Portland	OR		88.3	428BT	122-43-59	79.6	34.12	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KBVM F(50,50) 60 dBu = 42.46 km								
Proposed F(50,50) 60 dBu = 29.40 km; KBVM F(50,10) 54 dBu = 64.43 km								
KYSC	LIC	Yakima School District N	*203A	3	46-35-06	24.8	107.2	33.65
Yakima	WA		88.5	-77	120-31-41	205.2	73.52	CLEAR
Proposed F(50,50) 80 dBu = 7.717 km; KYSC F(50,50) 60 dBu = 13.33 km								
Proposed F(50,50) 60 dBu = 29.40 km; KYSC F(50,50) 80 dBu = 4.247 km								

Page 42  
May 5, 1998

Title: THE DALLIES, OR  
Channel 201C2 ( 88.1 MHz) ERP: .20 kW; EAH: 561 m

Latitude: 45-42-43  
Longitude: 121-07-00

>> End of channel 201C2 study <<



FM Interference study

Title: THE DALLES, OR Latitude: 45-42-43  
Channel 211C2 ( 90.1 MHz) ERP: .20 kW; EAH: 561 m Longitude: 121-07-00  
Database: FCC 04/09/98 Safety zone: 80 km

Call	Auth	Licensee name	Chan	ERP-kW	Latitude	Br-to	Dist.	Req.
City of License	St	FCC File no.	Freq	EAH-m	Longitude	-from	(km)	(km)
KOIN	LIC	KOIN-TV, INC.	6	100	45-30-58	260.8	127.9	143.2
PORTLAND	OR		85.0	533	122-43-59	79.6	-15.3	SHORT
Proposed F(50,10) 67.4 dBu = 20.01 km; KOIN F(50,50) 47 dBu = 123.2 km								
NEW	APC	Positive Programming Fou	*208C3	.58	45-20-01	228.0	62.73	37.91
Pine Grove	OR		89.5	529	121-42-45	47.6	24.82	CLEAR
Proposed F(50,50) 100 dBu = .978 km; NEW F(50,50) 60 dBu = 36.93 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,50) 100 dBu = 1.555 km								
NEW	APC	Educational Media Founda	*208C1	5.20DA	45-20-01	228.0	62.73	59.07
Pine Grove	OR		89.5	540	121-42-45	47.6	3.663	CLOSE
Cut-off 07/25/97; DA: oddball ODD970318MA @ 0 deg								
Proposed F(50,50) 100 dBu = .978 km; NEW F(50,50) 60 dBu = 58.09 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,50) 100 dBu = 4.496 km								
ALLOC			*208C1		46-31-42	26.6	101.8	73.28
Wapato	WA		89.5		120-31-16	207.0	28.47	CLEAR
Proposed F(50,50) 100 dBu = .978 km; ALLOC F(50,50) 60 dBu = 72.31 km								
Proposed F(50,50) 60 dBu = 29.40 km; ALLOC F(50,50) 100 dBu = 10.12 km								
KSOH	LIC	Central Washington Educa	*208C2	9.50	46-31-42	26.6	101.8	50.39
Wapato	WA		89.5	297	120-31-16	207.0	51.36	CLEAR
Proposed F(50,50) 100 dBu = .978 km; KSOH F(50,50) 60 dBu = 49.41 km								
Proposed F(50,50) 60 dBu = 29.40 km; KSOH F(50,50) 100 dBu = 4.862 km								
KWFJ	LIC	Calvary Baptist Church	*209A	1DA	46-57-59	322.3	177.8	32.58
Roy	WA		89.7	30	122-32-56	141.2	145.2	CLEAR
DA: oddball ODD911210ME @ 0 deg								
Proposed F(50,50) 80 dBu = 7.717 km; KWFJ F(50,50) 60 dBu = 10.25 km								
Proposed F(50,50) 60 dBu = 29.40 km; KWFJ F(50,50) 80 dBu = 3.179 km								
KBPS-FM LIC		Benson Polytechnic Schoo	*210C2	8.70	45-30-58	260.8	127.9	100.8
Portland	OR		89.9	293	122-43-59	79.6	27.16	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KBPS-FM F(50,50) 60 dBu = 48.33 km								
Proposed F(50,50) 60 dBu = 29.40 km; KBPS-FM F(50,10) 54 dBu = 71.39 km								
KOLU	LIC	Riverview Baptist Christ	*211C2	4.10	46-04-59	74.0	157.3	135.4
Pasco	WA		90.1	305	119-09-38	255.5	21.92	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; KOLU F(50,50) 60 dBu = 42.58 km								
Proposed F(50,50) 60 dBu = 29.40 km; KOLU F(50,10) 40 dBu = 106.0 km								
KNWY	LIC	Washington State Univers	*212C3	1.90	46-31-57	26.9	102.5	81.38
Yakima	WA		90.3	273	120-30-37	207.3	21.17	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KNWY F(50,50) 60 dBu = 34.67 km								
Proposed F(50,50) 60 dBu = 29.40 km; KNWY F(50,10) 54 dBu = 51.98 km								

McCLANATHAN & ASSOCIATES  
PORTLAND, OREGON

Page 62  
May 5, 1998

FM Interference study

Title: THE DALLES, OR Latitude: 45-42-43  
Channel 211C2 ( 90.1 MHz) ERP: .20 kW; EAH: 561 m Longitude: 121-07-00

Call	Auth	Licensee name	Chan	ERP-kW	Latitude	Br-to	Dist.	Req.
City of	License	St	FCC File no.	Freq	EAH-m	Longitude	-from	(km) (km)
KZOE	LIC	Columbia Heights Christi	*212A	.50	46-09-47	291.1	143.8	69.76
Longview		WA	90.3	239	122-51-14	109.8	74.00	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KZOE F(50,50) 60 dBu = 23.86 km								
Proposed F(50,50) 60 dBu = 29.40 km; KZOE F(50,10) 54 dBu = 35.89 km								
NEW	APC	The Commun. Advisory Bd.	*213A	.40	44-04-41	185.4	182.4	35.51
Bend		OR	90.5	177	121-19-57	5.3	146.9	CLEAR
Proposed F(50,50) 80 dBu = 7.717 km; NEW F(50,50) 60 dBu = 19.70 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,50) 80 dBu = 6.114 km								
KBOO	LIC	The KBOO Foundation	*214C1	26.5	45-29-20	259.1	125.6	65.97
Portland		OR	90.7	386BT	122-41-40	78.0	59.60	CLEAR
Proposed F(50,50) 100 dBu = .978 km; KBOO F(50,50) 60 dBu = 64.99 km								
Proposed F(50,50) 60 dBu = 29.40 km; KBOO F(50,50) 100 dBu = 7.621 km								
KICE	LIC	Sequoia Communications,	264C1	50	44-04-40	185.4	182.4	27
Bend		OR BLH-5892	100.7	158	121-19-49	5.2	155.4	CLEAR
KARY-FM	LIC	Northwest Broadcast Repr	265A	6	46-14-03	59.6	116.5	15
Grandview		WA BMLH-910207KA	100.9	-27	119-48-49	240.5	101.5	CLEAR

>> End of channel 211C2 study <<

FM Interference study

Title: THE DALLIES, OR  
Channel 213C2 ( 90.5 MHz) ERP: .20 kW; EAH: 561 m  
Database: FCC 04/09/98

Latitude: 45-42-43  
Longitude: 121-07-00  
Safety zone: 80 km

Call	Auth	Licensee name	Chan	ERP-kW	Latitude	Br-to	Dist.	Req.
City of License	St	FCC File no.	Freq	EAH-m	Longitude	-from	(km)	(km)
KOIN	LIC	KOIN-TV, INC.	6	100	45-30-58	260.8	127.9	140.5
PORTLAND	OR		85.0	533	122-43-59	79.6	-12.6	SHORT
Proposed F(50,10) 69.5 dBu = 17.29 km; KOIN F(50,50) 47 dBu = 123.2 km								
KBPS-FM	LIC	Benson Polytechnic Schoo	*210C2	8.70	45-30-58	260.8	127.9	49.31
Portland	OR		89.9	293	122-43-59	79.6	78.64	CLEAR
Proposed F(50,50) 100 dBu = .978 km; KBPS-FM F(50,50) 60 dBu = 48.33 km								
Proposed F(50,50) 60 dBu = 29.40 km; KBPS-FM F(50,50) 100 dBu = 4.704 km								
KOLU	LIC	Riverview Baptist Christ	*211C2	4.10	46-04-59	74.0	157.3	50.29
Pasco	WA		90.1	305	119-09-38	255.5	107.0	CLEAR
Proposed F(50,50) 80 dBu = 7.717 km; KOLU F(50,50) 60 dBu = 42.58 km								
Proposed F(50,50) 60 dBu = 29.40 km; KOLU F(50,50) 80 dBu = 14.43 km								
KNWY	LIC	Washington State Univers	*212C3	1.90	46-31-57	26.9	102.5	81.38
Yakima	WA		90.3	273	120-30-37	207.3	21.17	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KNWY F(50,50) 60 dBu = 34.67 km								
Proposed F(50,50) 60 dBu = 29.40 km; KNWY F(50,10) 54 dBu = 51.98 km								
KZOE	LIC	Columbia Heights Christi	*212A	.50	46-09-47	291.1	143.8	69.76
Longview	WA		90.3	239	122-51-14	109.8	74.00	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KZOE F(50,50) 60 dBu = 23.86 km								
Proposed F(50,50) 60 dBu = 29.40 km; KZOE F(50,10) 54 dBu = 35.89 km								
NEW	APC	The Commun. Advisory Bd.	*213A	.40	44-04-41	185.4	182.4	106.6
Bend	OR		90.5	177	121-19-57	5.3	75.78	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; NEW F(50,50) 60 dBu = 19.70 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,10) 40 dBu = 60.84 km								
NEW	APC	Pensacola Christian Coll	*213C3	4.50	44-04-39	185.4	182.4	122.4
Bend	OR		90.5	173	121-19-52	5.2	60.02	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; NEW F(50,50) 60 dBu = 34.19 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,10) 40 dBu = 93.01 km								
KBOO	LIC	The KBOO Foundation	*214C1	26.5	45-29-20	259.1	125.6	124.5
Portland	OR		90.7	386BT	122-41-40	78.0	1.036	CLOSE
Proposed F(50,10) 54 dBu = 45.89 km; KBOO F(50,50) 60 dBu = 64.99 km								
Proposed F(50,50) 60 dBu = 29.40 km; KBOO F(50,10) 54 dBu = 95.14 km								
KNWR	LIC	Washington State Univers	*214C1	5	47-15-48	17.6	181.2	127.3
Ellensburg	WA		90.7	777BT	120-23-31	198.1	53.88	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KNWR F(50,50) 60 dBu = 66.51 km								
Proposed F(50,50) 60 dBu = 29.40 km; KNWR F(50,10) 54 dBu = 97.93 km								
KRBM	LIC	Oregon Public Broadcasti	*215C2	25	45-35-21	94.0	165.7	57.16
Pendleton	OR		90.9	180BT	118-59-53	275.5	108.6	CLEAR
Proposed F(50,50) 80 dBu = 7.717 km; KRBM F(50,50) 60 dBu = 49.44 km								
Proposed F(50,50) 60 dBu = 29.40 km; KRBM F(50,10) 80 dBu = 18.33 km								

FM Interference study

Title: THE DALLES, OR Latitude: 45-42-43  
Channel 213C2 ( 90.5 MHz) ERP: .20 kW; EAH: 561 m Longitude: 121-07-00

Call	Auth	Licensee name	Chan	ERP-kW	Latitude	Br-to	Dist.	Req.
City of License	St	FCC File no.	Freq	EAH-m	Longitude	-from	(km)	(km)
KYPL	CP	Growing Christian Founda	*216C2	10	46-30-48	31.5	104.8	50.39
Yakima	WA		91.1	290	120-24-05	212.0	54.46	CLEAR
Proposed F(50,50) 100 dBu = .978 km; KYPL F(50,50) 60 dBu = 49.41 km								
Proposed F(50,50) 60 dBu = 29.40 km; KYPL F(50,50) 100 dBu = 4.916 km								
KUFO	CP	American Radio Systems L	266C	22.5	45-30-57	260.7	127.8	35
Portland	OR	BPH-970219IH	101.1	395	122-43-52	79.6	92.80	CLEAR
KGDN	CP	West Pasco Fine Arts Rad	267C3	2.75	46-05-47	73.3	155.2	17
Pasco	WA	BPH-970416IB	101.3	305	119-11-36	254.7	138.2	CLEAR

>> End of channel 213C2 study <<

McCLANATHAN & ASSOCIATES  
PORTLAND, OREGON

Page 69  
May 5, 1998

FM Interference study

Title: THE DALLIES, OR  
Channel 215C2 ( 90.9 MHz) ERP: .20 kW; EAH: 561 m  
Database: FCC 04/09/98

Latitude: 45-42-43  
Longitude: 121-07-00  
Safety zone: 80 km

Call	Auth	Licensee name	Chan	ERP-kW	Latitude	Br-to	Dist.	Req.
City of License	St	FCC File no.	Freq	EAH-m	Longitude	-from	(km)	(km)
KOIN	LIC	KOIN-TV, INC.	6	100	45-30-58	260.8	127.9	135.5
PORTLAND	OR		85.0	533	122-43-59	79.6	-7.60	SHORT
Proposed F(50,10) 74 dBu = 12.33 km; KOIN F(50,50) 47 dBu = 123.2 km								
KNWY	LIC	Washington State Univers	*212C3	1.90	46-31-57	26.9	102.5	35.65
Yakima	WA		90.3	273	120-30-37	207.3	66.89	CLEAR
Proposed F(50,50) 100 dBu = .978 km; KNWY F(50,50) 60 dBu = 34.67 km								
Proposed F(50,50) 60 dBu = 29.40 km; KNWY F(50,50) 100 dBu = 2.675 km								
NEW	APC	The Commun. Advisory Bd.	*213A	.40	44-04-41	185.4	182.4	35.51
Bend	OR		90.5	177	121-19-57	5.3	146.9	CLEAR
Proposed F(50,50) 80 dBu = 7.717 km; NEW F(50,50) 60 dBu = 19.70 km								
Proposed F(50,50) 60 dBu = 29.40 km; NEW F(50,50) 80 dBu = 6.114 km								
KBOO	LIC	The KBOO Foundation	*214C1	26.5	45-29-20	259.1	125.6	124.5
Portland	OR		90.7	386BT	122-41-40	78.0	1.036	CLOSE
Proposed F(50,10) 54 dBu = 45.89 km; KBOO F(50,50) 60 dBu = 64.99 km								
Proposed F(50,50) 60 dBu = 29.40 km; KBOO F(50,10) 54 dBu = 95.14 km								
KNWR	LIC	Washington State Univers	*214C1	5	47-15-48	17.6	181.2	127.3
Ellensburg	WA		90.7	777BT	120-23-31	198.1	53.88	CLEAR
Proposed F(50,10) 54 dBu = 45.89 km; KNWR F(50,50) 60 dBu = 66.51 km								
Proposed F(50,50) 60 dBu = 29.40 km; KNWR F(50,10) 54 dBu = 97.93 km								
KRBM	LIC	Oregon Public Broadcasti	*215C2	25	45-35-21	94.0	165.7	155.7
Pendleton	OR		90.9	180BT	118-59-53	275.5	10.05	CLOSE
Proposed F(50,10) 40 dBu = 86.89 km; KRBM F(50,50) 60 dBu = 49.44 km								
Proposed F(50,50) 60 dBu = 29.40 km; KRBM F(50,10) 40 dBu = 126.3 km								
KVTI	LIC	Clover Park Technical Co	*215C1	51	47-09-39	325.8	196.3	162.1
Tacoma	WA		90.9	111	122-34-35	144.7	34.14	CLEAR
Proposed F(50,10) 40 dBu = 86.89 km; KVTI F(50,50) 60 dBu = 46.77 km								
Proposed F(50,50) 60 dBu = 29.40 km; KVTI F(50,10) 40 dBu = 132.7 km								
KYPL	CP	Growing Christian Founda	*216C2	10	46-30-48	31.5	104.8	102.2
Yakima	WA		91.1	290	120-24-05	212.0	2.603	CLOSE
Proposed F(50,10) 54 dBu = 45.89 km; KYPL F(50,50) 60 dBu = 49.41 km								
Proposed F(50,50) 60 dBu = 29.40 km; KYPL F(50,10) 54 dBu = 72.84 km								
KCED	LIC	Centralia Community Coll	*217A	1	46-42-56	308.8	181.0	32.58
Centralia	WA		91.3	-21	122-57-48	127.5	148.4	CLEAR
Proposed F(50,50) 80 dBu = 7.717 km; KCED F(50,50) 60 dBu = 10.25 km								
Proposed F(50,50) 60 dBu = 29.40 km; KCED F(50,50) 80 dBu = 3.179 km								
KOPB-FM	LIC	Oregon Public Broadcasti	*218C	70	45-31-22	261.2	129.3	82.58
Portland	OR		91.5	475	122-45-07	80.0	46.69	CLEAR
Proposed F(50,50) 100 dBu = .978 km; KOPB-FM F(50,50) 60 dBu = 81.60 km								
Proposed F(50,50) 60 dBu = 29.40 km; KOPB-FM F(50,50) 100 dBu = 11.20 km								

Page 70  
May 5, 1998

Title: THE DALLIES, OR  
Channel 215C2 ( 90.9 MHz) ERP: .20 kW; EAH: 561 m

Latitude: 45-42-43  
Longitude: 121-07-00

Call City of	Auth Licensee	name	Chan ERP-kW	Latitude	Br-to	Dist.	Req.
City of	License	St FCC File no.	Freq EAH-m	Longitude	-from	(km)	(km)
PRM ADD	LifeTalk	Broadcasting As	268C3	45-31-28	181.3	20.84	17
The Dalles		OR DOC-96-12	101.5	121-07-22	1.3	3.845	CLOSE
PRM ADD	Common	Ground Broadcasti	268C3	45-34-00	136.0	22.45	17
The Dalles		OR DOC-96-12	101.5	120-55-00	316.2	5.446	CLOSE
KZXR LIC	Cormac C. Thompson		269C3 3.50	46-11-12	62.9	118.1	17
Prosser		WA BLH-901119KI	101.7 265	119-45-13	243.9	101.1	CLEAR

>> End of channel 215C2 study <<

# EXHIBIT 3

McCLANATHAN & ASSOCIATES  
PORTLAND, OREGON

Page 1  
May 5, 1998

Title: THE DALLES, OR

## Educational FM/TV Channel 6 Interference area

Interference		----- KOIN Channel 6 -----						----- Proposed Ch. 215 -----					
--- Site ---		C/R 533 m AAT						C/R 581 m AAT					
Lat 45-42-08		Latitude: 45-30-58						Latitude: 45-42-43					
Lon 121-12-06		Longitude: 122-43-59						Longitude: 121-07-00					
Bear. (deg)	Dist (km)	Bear. (deg)	Dist (km)	Haat (m)	ERP (kW)	F.S. (dBu)	U/D (dB)	Bear. (deg)	Dist (km)	Haat (m)	ERP (kW)	F.S. (dBu)	
.0	5.9	76.8	122	555	100	47.9	31.0*	306.4	8.21	502	.20	78.9	
1.0	6.0	76.8	122	555	100	47.9	31.1*	307.1	8.15	498	.20	78.9	
2.0	6.1	76.8	123	555	100	47.8	31.2*	308.0	8.12	494	.20	79.0	
3.0	6.1	76.8	123	555	100	47.8	31.3*	308.9	8.07	494	.20	79.0	
4.0	6.2	76.8	123	555	100	47.7	31.4*	309.7	8.02	489	.20	79.1	
5.0	6.3	76.8	123	555	100	47.7	31.4*	310.5	7.96	485	.20	79.1	
6.0	6.3	76.8	123	555	100	47.7	31.5*	311.3	7.91	481	.20	79.2	
7.0	6.4	76.7	123	555	100	47.6	31.6*	312.1	7.86	477	.20	79.2	
8.0	6.4	76.7	123	555	100	47.6	31.7*	313.0	7.80	473	.20	79.3	
9.0	6.5	76.7	123	555	100	47.5	31.8*	314.0	7.75	473	.20	79.3	
10.0	6.6	76.7	124	555	100	47.5	31.9*	314.9	7.70	468	.20	79.4	
11.0	6.7	76.7	124	555	100	47.4	32.0*	315.7	7.64	464	.20	79.4	
12.0	6.7	76.7	124	555	100	47.4	32.1*	316.8	7.60	464	.20	79.5	
13.0	6.8	76.7	124	555	100	47.3	32.2*	317.9	7.55	464	.20	79.6	
14.0	6.9	76.6	124	555	100	47.3	32.4*	319.0	7.50	463	.20	79.6	
15.0	7.0	76.6	124	555	100	47.2	32.5*	320.2	7.46	463	.20	79.7	
16.0	7.1	76.6	124	555	100	47.2	32.6*	321.3	7.41	463	.20	79.8	
17.0	7.2	76.6	125	555	100	47.1	32.7*	322.4	7.36	462	.20	79.8	
18.0	7.3	76.6	125	555	100	47.1	32.8*	323.6	7.31	462	.20	79.9	
19.0	7.4	76.6	125	555	100	47.0	33.0*	324.8	7.27	462	.20	80.0	
20.0	7.3	76.7	125	555	100	47.0	33.0*	324.6	7.09	462	.20	80.3	
21.0	7.1	76.8	125	555	100	47.0	33.0*	323.8	6.88	462	.20	80.6	
22.0	6.9	76.9	125	555	100	47.0	33.0*	323.1	6.68	462	.20	80.9	
23.0	6.7	77.0	125	555	100	47.0	33.0*	322.2	6.48	462	.20	81.3	
24.0	6.5	77.1	125	554	100	47.0	33.0*	320.8	6.27	463	.20	81.7	
25.0	6.3	77.2	125	554	100	47.0	33.0*	319.9	6.10	463	.20	82.0	
26.0	6.2	77.3	125	554	100	47.0	33.0*	319.1	5.94	463	.20	82.3	
27.0	6.1	77.3	125	554	100	47.0	33.0*	318.2	5.79	463	.20	82.7	
28.0	5.9	77.4	125	554	100	47.0	33.0*	317.4	5.65	464	.20	83.0	
29.0	5.8	77.5	125	554	100	47.0	33.0*	316.5	5.51	464	.20	83.3	
30.0	5.7	77.6	125	554	100	47.0	33.0*	315.7	5.38	464	.20	83.6	
31.0	5.6	77.6	125	554	100	47.0	33.0*	314.8	5.26	468	.20	83.9	
32.0	5.5	77.7	125	554	100	47.0	33.0*	314.0	5.15	473	.20	84.1	
33.0	5.4	77.8	125	554	100	47.0	33.0*	313.0	5.03	477	.20	84.4	
34.0	5.3	77.8	125	554	100	47.0	33.0*	312.2	4.93	477	.20	84.6	
35.0	5.2	77.9	125	554	100	47.0	33.0*	311.3	4.83	481	.20	84.9	
36.0	5.1	77.9	125	554	100	47.0	33.0*	310.3	4.73	485	.20	85.1	
37.0	5.0	78.0	125	554	100	47.0	33.0*	308.5	4.63	494	.20	85.3	
38.0	4.9	78.1	125	554	100	47.0	33.0*	307.6	4.55	498	.20	85.5	
39.0	4.8	78.1	125	554	100	47.0	33.0*	306.6	4.47	502	.20	85.7	
40.0	4.7	78.2	125	554	100	47.0	33.0*	305.6	4.39	506	.20	85.9	
41.0	4.7	78.2	125	554	100	47.0	33.0*	304.6	4.31	511	.20	86.1	
42.0	4.6	78.3	125	554	100	47.0	33.0*	303.7	4.24	515	.20	86.3	
43.0	4.6	78.3	125	554	100	47.0	33.0*	302.7	4.17	519	.20	86.5	
44.0	4.5	78.4	125	554	100	47.0	33.0*	301.7	4.10	523	.20	86.6	

McCLANATHAN & ASSOCIATES  
PORTLAND, OREGON

Page 2  
May 5, 1998

Title: THE DALLIES, OR

Educational FM/TV Channel 6 Interference area

Interference	----- KOIN Channel 6 -----	----- Proposed Ch. 215 -----
--- Site ---	C/R 533 m AAT	C/R 581 m AAT
Lat 45-42-08	Latitude: 45-30-58	Latitude: 45-42-43
Lon 121-12-06	Longitude: 122-43-59	Longitude: 121-07-00

Bear. (deg)	Dist (km)	Bear. (deg)	Dist (km)	Haat (m)	ERP (kW)	F.S. (dBu)	U/D (dB)	Bear. (deg)	Dist (km)	Haat (m)	ERP (kW)	F.S. (dBu)
45.0	4.4	78.4	125	554	100	47.0	33.0*	300.7	4.04	527	.20	86.8
46.0	4.4	78.4	125	554	100	47.0	33.0*	299.7	3.98	532	.20	86.9
47.0	4.3	78.5	125	554	100	47.0	33.0*	298.7	3.92	536	.20	87.1
48.0	4.3	78.5	125	554	100	47.0	33.0*	297.6	3.87	540	.20	87.2
49.0	4.2	78.6	125	554	100	47.0	33.0*	296.7	3.82	544	.20	87.4
50.0	4.2	78.6	125	554	100	47.0	33.0*	295.6	3.77	548	.20	87.5
51.0	4.2	78.6	125	554	100	47.0	33.0*	294.5	3.72	553	.20	87.7
52.0	4.1	78.7	125	554	100	47.0	33.0*	293.5	3.67	557	.20	87.8
53.0	4.1	78.7	125	554	100	47.0	33.0*	292.5	3.63	561	.20	87.9
54.0	4.1	78.8	125	554	100	47.0	33.0*	291.4	3.59	565	.20	88.0
55.0	4.0	78.8	125	554	100	47.0	33.0*	290.2	3.55	570	.20	88.1
56.0	4.0	78.8	125	554	100	47.0	33.0*	289.2	3.51	574	.20	88.3
57.0	4.0	78.9	125	554	100	47.0	33.0*	288.2	3.47	578	.20	88.4
58.0	3.9	78.9	125	554	100	47.0	33.0*	287.0	3.44	582	.20	88.5
59.0	3.9	78.9	125	554	100	47.0	33.0*	285.9	3.41	591	.20	88.6
60.0	3.9	79.0	125	554	100	47.0	33.0*	284.8	3.38	595	.20	88.6
61.0	3.8	79.0	125	554	100	47.0	33.0*	283.7	3.35	599	.20	88.7
62.0	3.8	79.0	125	553	100	47.0	33.0*	282.0	3.36	607	.20	88.7
63.0	3.8	79.1	125	553	100	47.0	33.0*	280.9	3.34	612	.20	88.8
64.0	3.7	79.1	125	553	100	47.0	33.0*	279.8	3.31	616	.20	88.8
65.0	3.7	79.1	125	553	100	47.0	33.0*	278.7	3.29	620	.20	88.9
66.0	3.7	79.2	125	553	100	47.0	33.0*	277.6	3.27	624	.20	89.0
67.0	3.7	79.2	125	553	100	47.0	33.0*	276.4	3.25	628	.20	89.0
68.0	3.7	79.2	125	553	100	47.0	33.0*	275.3	3.24	633	.20	89.1
69.0	3.7	79.3	125	553	100	47.0	33.0*	274.2	3.22	637	.20	89.1
70.0	3.6	79.3	125	553	100	47.0	33.0*	273.1	3.20	641	.20	89.2
71.0	3.6	79.3	125	553	100	47.0	33.0*	272.0	3.19	650	.20	89.2
72.0	3.6	79.3	125	553	100	47.0	33.0*	270.8	3.17	654	.20	89.3
73.0	3.6	79.4	125	553	100	47.0	33.0*	269.7	3.16	655	.20	89.3
74.0	3.6	79.4	125	553	100	47.0	33.0*	268.5	3.16	656	.20	89.3
75.0	3.6	79.4	125	553	100	47.0	33.0*	267.4	3.15	657	.20	89.3
76.0	3.6	79.5	125	553	100	47.0	33.0*	266.3	3.14	658	.20	89.4
77.0	3.6	79.5	125	553	100	47.0	33.0*	265.1	3.14	659	.20	89.4
78.0	3.6	79.5	125	553	100	47.0	33.0*	264.0	3.13	661	.20	89.4
79.0	3.6	79.5	125	553	100	47.0	33.0*	262.9	3.13	662	.20	89.4
80.0	3.6	79.6	125	553	100	47.0	33.0*	261.7	3.12	663	.20	89.4
81.0	3.6	79.6	125	553	100	47.0	33.0*	260.5	3.13	664	.20	89.4
82.0	3.6	79.6	125	553	100	47.0	33.0*	259.4	3.12	665	.20	89.4
83.0	3.6	79.7	125	553	100	47.0	33.0*	258.3	3.13	666	.20	89.4
84.0	3.6	79.7	125	553	100	47.0	33.0*	257.1	3.14	667	.20	89.4
85.0	3.6	79.7	125	553	100	47.0	33.0*	256.0	3.14	668	.20	89.4
86.0	3.6	79.7	125	553	100	47.0	33.0*	254.8	3.14	670	.20	89.4
87.0	3.6	79.8	125	553	100	47.0	33.0*	253.7	3.15	671	.20	89.4
88.0	3.6	79.8	125	553	100	47.0	33.0*	252.5	3.17	672	.20	89.3
89.0	3.6	79.8	125	553	100	47.0	33.0*	251.4	3.17	673	.20	89.3



Title: THE DALLES, OR

Educational FM/TV Channel 6 Interference area

Interference		----- KOIN Channel 6 -----						----- Proposed Ch. 215 -----				
--- Site ---		C/R 533 m AAT						C/R 581 m AAT				
Lat 45-42-08		Latitude: 45-30-58						Latitude: 45-42-43				
Lon 121-12-06		Longitude: 122-43-59						Longitude: 121-07-00				
Bear.	Dist	Bear.	Dist	Haat	ERP	F.S.	U/D	Bear.	Dist	Haat	ERP	F.S.
(deg)	(km)	(deg)	(km)	(m)	(kW)	(dBu)	(dB)	(deg)	(km)	(m)	(kW)	(dBu)
90.0	3.6	79.9	125	553	100	47.0	33.0*	250.3	3.18	674	.20	89.3
91.0	3.6	79.9	125	553	100	47.0	33.0*	249.2	3.20	675	.20	89.2
92.0	3.6	79.9	125	553	100	47.0	33.0*	248.1	3.21	676	.20	89.2
93.0	3.7	80.0	125	553	100	47.0	33.0*	246.9	3.22	678	.20	89.2
94.0	3.7	80.0	125	553	100	47.0	33.0*	245.8	3.24	679	.20	89.1
95.0	3.6	80.0	125	552	100	47.0	33.0*	245.1	3.30	679	.20	88.9
96.0	3.7	80.0	125	552	100	47.0	33.0*	244.0	3.32	680	.20	88.9
97.0	3.7	80.1	125	552	100	47.0	33.0*	243.0	3.34	682	.20	88.8
98.0	3.7	80.1	125	552	100	47.0	33.0*	241.9	3.36	683	.20	88.8
99.0	3.7	80.1	125	552	100	47.0	33.0*	240.8	3.38	684	.20	88.7
100.0	3.7	80.2	125	552	100	47.0	33.0*	239.7	3.41	685	.20	88.6
101.0	3.8	80.2	125	552	100	47.0	33.0*	238.7	3.44	686	.20	88.6
102.0	3.8	80.2	125	552	100	47.0	33.0*	237.6	3.46	688	.20	88.5
103.0	3.8	80.3	125	552	100	47.0	33.0*	236.6	3.49	689	.20	88.4
104.0	3.8	80.3	125	552	100	47.0	33.0*	235.5	3.52	690	.20	88.3
105.0	3.9	80.3	125	552	100	47.0	33.0*	234.4	3.56	691	.20	88.3
106.0	3.9	80.4	125	552	100	47.0	33.0*	233.3	3.59	692	.20	88.2
107.0	3.9	80.4	125	552	100	47.0	33.0*	232.2	3.62	693	.20	88.1
108.0	4.0	80.4	125	552	100	47.0	33.0*	231.2	3.66	694	.20	88.0
109.0	4.0	80.5	125	552	100	47.0	33.0*	230.1	3.70	695	.20	87.9
110.0	4.0	80.5	125	552	100	47.0	33.0*	229.2	3.75	696	.20	87.8
111.0	4.1	80.5	125	552	100	47.0	33.0*	228.2	3.79	697	.20	87.7
112.0	4.1	80.6	125	552	100	47.0	33.0*	227.2	3.84	698	.20	87.6
113.0	4.2	80.6	125	552	100	47.0	33.0*	226.1	3.88	699	.20	87.4
114.0	4.2	80.7	125	552	100	47.0	33.0*	225.0	3.93	700	.20	87.3
115.0	4.2	80.7	125	552	100	47.0	33.0*	224.1	3.98	701	.20	87.2
116.0	4.3	80.7	125	552	100	47.0	33.0*	223.2	4.04	703	.20	87.1
117.0	4.3	80.8	125	552	100	47.0	33.0*	222.0	4.10	705	.20	86.9
118.0	4.4	80.8	125	552	100	47.0	33.0*	221.1	4.16	706	.20	86.8
119.0	4.5	80.9	125	552	100	47.0	33.0*	220.1	4.22	708	.20	86.6
120.0	4.5	80.9	125	552	100	47.0	33.0*	219.2	4.29	710	.20	86.5
121.0	4.6	81.0	125	552	100	47.0	33.0*	218.1	4.36	711	.20	86.4
122.0	4.6	81.0	125	552	100	47.0	33.0*	217.3	4.43	713	.20	86.2
123.0	4.6	81.0	125	552	100	47.0	33.0*	217.1	4.51	713	.20	86.0
124.0	4.7	81.1	125	552	100	47.0	33.0*	216.2	4.58	715	.20	85.9
125.0	4.8	81.1	125	552	100	47.0	33.0*	215.1	4.67	716	.20	85.7
126.0	4.9	81.2	125	552	100	47.0	33.0*	214.2	4.75	718	.20	85.6
127.0	5.0	81.2	125	552	100	47.0	33.0*	213.3	4.84	720	.20	85.4
128.0	5.0	81.3	125	552	100	47.0	33.0*	212.4	4.94	721	.20	85.2
129.0	5.1	81.4	125	552	100	47.0	33.0*	211.4	5.04	723	.20	85.0
130.0	5.2	81.4	125	552	100	47.0	33.0*	210.5	5.14	725	.20	84.8
131.0	5.3	81.5	125	552	100	47.0	33.0*	209.6	5.25	726	.20	84.6
132.0	5.4	81.5	125	552	100	47.0	33.0*	208.7	5.36	728	.20	84.4
133.0	5.6	81.6	125	552	100	47.0	33.0*	207.7	5.48	730	.20	84.2
134.0	5.7	81.7	125	552	100	47.0	33.0*	206.8	5.61	731	.20	84.0